



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,168	07/09/2001	Akira Kamiya	2001_0976A	5407
513	7590	10/19/2005	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			LEE, RICHARD J	
2033 K STREET N. W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006-1021			2613	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/900,168

Applicant(s)

KAMIYA, AKIRA

Examiner

Richard Lee

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2613

1. The applicant is informed that the Sarginson reference as disclosed in the IDS filed September 1, 2005 has not been considered by the Examiner since the reference has not been furnished to the Office. A line has been drawn through the citation accordingly as shown in the attachment. Please provide a copy of the reference along with a new IDS in response to this Office Action if applicant still wishes consideration of the reference.

2. Claims 1, 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For examples:

(1) claim 1, lines 39-40, "the instruction" shows multiple antecedent basis (see lines 35 and 36);

(2) claim 3, line 11, "the instruction" shows multiple antecedent basis (see lines 6 and 7);

(3) claim 4, line 11, "the instruction" shows multiple antecedent basis (see lines 6 and 7);

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami of record (6,332,058) in view of Siong et al of record (6,028,632) and Haskell et al of record (5,159,447).

Kawakami discloses an information reproduction apparatus as shown in Figures 1 and 2, and the substantially the same multiple decoding method for simultaneously decoding two or

Art Unit: 2613

more encoded data from a single composed of a plurality of encoded data (i.e. as provided by 12 of Figure 1, and see Figure 2, column 5, lines 55-65), and multiple decoding apparatus for receiving a signal composed of a plurality of encoded data and for simultaneously decoding two or more of the encoded data (i.e., as provided by 12 of Figure 1 and see Figure 2, column 5, lines 455-65) as claimed in claims 1 and 5, comprising substantially the same selecting a plurality of decoders (i.e., 22 of Figure 2) for performing decoding and a plurality of separate buffers (i.e., 34 of Figure 2) corresponding to the plurality of decoders, respectively, according to the usage status of the plurality of decoders (i.e., gate controllers 32 control writing of information to the respective decoder buffers 34 based on the usage of the decoders, and gate controllers 32 are being supplied flags EF for timing adjustments of the flow of data to the decoder, and the decoder will decoded the respective data when ready, see column 5, lines 31-65, column 7, lines 7-47); extracting the two or more encoded data to be decoded and reproduced from the signal (i.e., as provided by 18 of Figures 1 and 2); storing the extracted encoded data in a buffer (i.e., 30 of Figure 2); distributing the two or more encoded data stored in the buffer (i.e., as provided by 40 of Figure 2 and see column 5, lines 46-54, column 7, lines 7-18) for each data type (i.e., the MPEG stream of data as shown in Kawakami is based according to a specific type of video which includes inherent and specific header data, see column 5, lines 46-54, column 7, lines 7-18) and respectively storing the two or more encoded data in the plurality of separate buffers (i.e., 34 of Figure 2); controlling output of the two or more encoded data stored in the separate buffers such that the two or more encoded data stored in the separate buffers are associated with each other (i.e., as provided by 32 of Figure 2 and see column 5, lines 31-45); decoding, responsive to the controlling, the two or more encoded data stored in the separate buffers and

Art Unit: 2613

outputting the two or more decoded data (i.e., as provided by 22 of Figure 2, and see column 5, lines 31-45); reproduction controller (i.e., 24, 36 of Figure 2) for outputting control information related to decoding and reproduction of the data; a data extractor (i.e., MPEG core server 18 of Figures 1 and 2) for receiving the signal and extracting the two or more encoded data designated by the control information; a buffer (i.e., 20, 30 of Figure 2) storing the two or more encoded data extracted by the data extractor; a buffer manager (i.e., within core server 18 of Figures 1 and 2, and see column 5, lines 1-30) for controlling the buffer in accordance with the control information for the buffer; a data flow controller (i.e., 40 of Figure 2 and see column 5, lines 46-54, column 7, lines 7-18) for distributing the two or more encoded data stored in the buffer for each data type and transferring the two or more encoded data in accordance with provided transfer conditions; a plurality of separate buffers (i.e., 34 of Figure 2) for respectively storing the two or more encoded data distributed and transferred by the data flow controller; a plurality of decoders (i.e., 22 of Figures 1 and 2) respectively corresponding to the plurality of separate buffers for decoding the two or more encoded data stored in the plurality of separate buffers and outputting two or more decoded data; and a decoding controller for selecting a separate buffer and a decoder (i.e., CPU group 36 outputs control signal 38 in response to a request from external controller 24, thereby selecting the desired information for decoding to the respective buffer and decoder, see column 5, lines 46-54, column 7, lines 7-38) which are used for the decoding, according to the usage status of the decoder from among the plurality of separate buffers and the plurality of decoders in accordance with the control information (i.e., gate controllers 32 control writing of information to the respective decoder buffers 34 based on the usage of the decoders, and gate controllers 32 are being supplied flags EF for timing adjustments

Art Unit: 2613

of the flow of data to the decoder, and the decoder will decoded the respective data when ready, see column 5, lines 31-65, column 7, lines 7-47), and outputting information related to the separate buffer selected by the decoding controller, the transfer conditions based on the separate buffer selected by the decoding controller, and an instruction to start decoding, respectively, to the separate buffer manager, the data flow controller, and the decoder selected by the decoding controller (i.e., controller 24 and CPU group 36 controls all the hardware structures, see columns 5-7).

Kawakami does not particularly disclose, though, the followings:

(a) a separate buffer manager for controlling output of the two or more encoded data stored in the plurality of separate buffers so as to be associated with each other in accordance with information for specifying the plurality of separate buffers as claimed in claim 1.

(b) the buffer manager outputs, when the buffer becomes full of the two or more encoded data, an overflow notification to the reproduction controller; the reproduction controller outputs, upon receipt of the overflow notification, an instruction to stop data extraction to the data extractor, and outputs an initialization instruction to the decoding controller; the decoding controller outputs, upon receipt of the initialization instruction from the reproduction controller, an instruction to initialize all of the plurality of separate buffers to the separate buffer manager, outputs an instruction to initialize the buffer to the buffer manager, and respectively outputs instructions to stop decoding to all of the plurality of decoders; the buffer manager initializes the buffer in accordance with the instruction from the decoding controller; the separate buffer manager initializes all of the plurality of separate buffers in accordance with the instruction from the decoding controller; and wherein the multiple decoding apparatus resumes all processing

Art Unit: 2613

which was stopped when the buffer became full after the buffer and the plurality of separate buffers are initialized as claimed in claim 1;

(c) the separate buffer manger outputs, when a specific separate buffer becomes full of data, an overflow notification that the specific separate buffer overflows to the decoding controller, the decoding controller outputs, upon receipt of the overflow notification that the separate buffer overflows, an instruction to stop data transfer to the specific separate buffer to the data flow controller, an instruction to discard the encoded data directed toward the specific separate buffer to the data flow controller, outputs an instruction to stop decoding to a decoder corresponding to the specific separate buffer, and outputs an instruction to initialize the specific separate buffer to the separate buffer manage, the separate buffer manager initializes the specific separate buffer in accordance with the instruction from the decoding controller, and the multiple decoding apparatus resumes all processing which was stopped as a result of the specific separate buffer becoming full after the specific separate buffer is initialized, and the discard of the encoded data is released after the specific separate buffer is initialized as claimed in claims 3 and 4;

(d) when the buffer becomes full of the two or more encoded data, stopping the extracting and decoding, initializing the buffer and the plurality of separate buffers, and resuming all processing which is stopped as a result of the buffer becoming full after the initializing of the buffer and the plurality of separate buffers are initialized; when a specific separate buffer becomes full of data, discarding the encoded data directed toward the specific separate buffer, stopping the distributing of the encoded data into the specific separate buffer and the decoding of the encoded data stored in the specific separate buffer, initializing the specific separate buffer,

Art Unit: 2613

and resuming all processing which was stopped when the specific separate buffer became full after the initializing of the specific separate buffer, and releasing the discard of the encoded data as claimed in claims 5, 7, and 8.

Regarding (a), it is noted that Kawakami does teach the particular use of a plurality of buffer managers (i.e., 32 of Figure 2) for controlling the outputs of each of the respective plurality of separate buffers 34, but and not particularly a separate buffer manager for controlling the output of the two or more encoded data respectively stored in the plurality of separate buffers as claimed. However, Siong et al discloses a multiple buffer and video decoder management system as shown in Figure 1, and teaches the general concept of the use of a separate buffer manager (i.e., 6 of Figure 1 and see column 3, line 56 to column 4, line 27) for controlling outputs of the plurality of separate buffers (i.e., 7-9 of Figure 1). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kawakami and Siong et al references in front of him/her and the general knowledge of buffer management systems, would have had no difficulty in providing the separate buffer manager of Siong et al in place of the plurality of separate buffer managers 32 of Kawakami for the same well known single unit integrated processing and so that less hardware would be required for managing the buffers purposes as claimed.

Regarding (b) to (d), Haskell et al discloses a buffer control for variable bit rate channel as shown in Figures 1-4, and teaches the conventional notification of overflow situations associated with encoder and decoder buffers (see column 17, line 66 to column 18, line 13), and the particular termination of packets of data within the decoder as one way of preventing overflow in the buffers, thereby stopping decoding to the decoder, data extraction, data transfer



Art Unit: 2613

to the specific buffer, and discarding data directed toward the specific buffer (see column 16, lines 27-39). It is noted that Haskell et al is however silent as to the initialization of the respective buffer components in response to the overflow notification and the subsequent resuming of the processing which was stopped after buffer initialization and the discard of the data is released after the buffer is initialized as claimed. But, it is considered obvious even without specific disclosure that once the packets are terminated within Haskell due to buffer overflow, the buffers of Haskell must be initialized since the existing data within the buffers are of no use and so that the buffers could be properly re-set. Further, after such buffer initialization and re-setting within Haskell, all processing will therefore be resumed, and the discarded data is released (i.e., the existing data in the buffer is of no use and therefore is released) after buffer initialization. Therefore, it would have been obvious to one of ordinary skill in the art, having the Kawakami, Siong et al, and Haskell et al references in front of him/her and the general knowledge of video encoder and decoder buffer fullness, would have had no difficulty in providing the overflow notification, termination of packets of data within the decoder as one way of preventing overflow in the buffers, thereby stopping decoding to the decoder, data extraction, data transfer to the specific buffer, and discarding data directed toward the specific buffer as taught by Haskell as well as the obvious initialization of buffers upon receipt of an overflow notification and the subsequent resuming of the processing which was stopped after buffer initialization and the discard of the data is released after the buffer is initialized within Haskell for the multiple decoder of Kawakami so that the buffer manager, reproduction controller, decoding controller, and separate buffer manager of Kawakami may proper respond to the

Art Unit: 2613

overflow notification for the same well known video decoder buffer overflow protection purposes as claimed.

5. Regarding the applicant's arguments at pages 6-8 of the amendment filed July 13, 2005 concerning in general that "... Kawakami does not disclose or suggest that the controller 40 distributes the data from the DMA buffers 30 to a number of decoders based on data type. This can be clearly seen from Figure 2 which shows each of the decoders 22 outputting both the video signal VS and the audio signal AS ... the controller 40 does not correspond to the claimed data flow controller ...", the Examiner respectfully disagrees. It is submitted again that the MPEG stream of data as shown in Kawakami is based according to a specific type of video, which includes inherent and specific header data (see column 5, lines 46-54, column 7, lines 7-18 of Kawakami). Specifically, the audio AS and video VS provided by the information materials 14 in the MPEG stream of Kawakami (see column 5, lines 55-65 of Kawakami) are equivalent to the "data type" as claimed, and controller 40 of Kawakami corresponds to the data flow controller (see column 5, lines 46-54, column 7, lines 7-18 of Kawakami) for distributing the two or more encoded data stored in the buffer for each data type and transferring the two or more encoded data in accordance with provided transfer conditions, as claimed.

Regarding the applicant's arguments at page 8 of the amendment filed July 13, 2005 concerning that there is no disclosure or suggestion that the controller selects between the plurality of buffers 34 and the corresponding decoders 22 based on the usage status of a decoder 22, such arguments have been addressed in the above paragraph (4). The Examiner wants to further add that the controller 24, 32, and 40 of Kawakami all work together so that all the

Art Unit: 2613

encoded data is timely processed, and that the controller 40 provides timely control of the data to a respective selected buffer and decoders within Figure 2 of Kawakami.

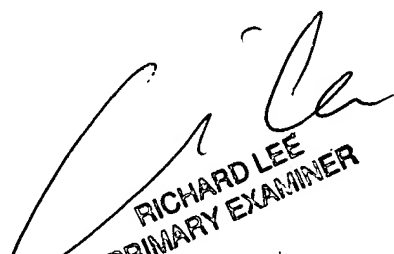
Regarding the applicant's arguments at pages 8-9 of the amendment filed July 13, 2005 concerning the combination of Kawakami, Siong and Haskell must disclose or suggest both the data flow controller and the decoding controller, the Examiner wants to point out that such arguments have been addressed in the above.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2613

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

  
RICHARD LEE  
PRIMARY EXAMINER

Richard Lee/rl

10/12/05

